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Executive Summary

Opportunity

Problem

Genetic testing companies make hundreds of millions of dollars per year, not primarily selling their tests, but rather selling their customers' data at several time the return of the test itself. This means that customers getting tested are not sharing in the wealth their data creates, and researchers have very few non-exclusive markets to go to to buy the data. The testing companies have created a monopoly on aggregating the data for researchers, so the price of data for research remains artificially high.

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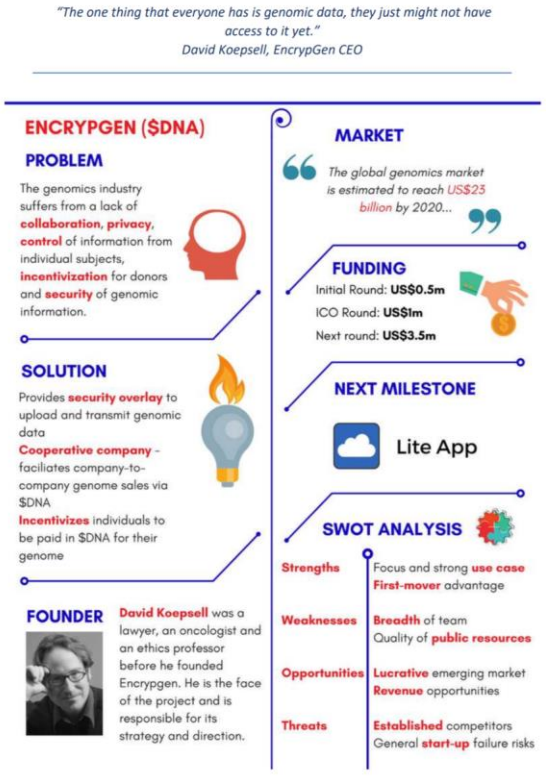

Solution

EncrypGen's Gene-Chain uses a blockchain to helps privately store users' genetic data and associate it with user-supplied metadata such as that collected by genetic testing companies so that users can store and sell their de-identified data directly to researchers in exchange for DNA, a cryptocurrency they can then exchange for money. Because EncrypGen take only 10% or less of the price of the sale as a commission (which can be shared with partners). There is no cost for users to upload their data and create a profile, and data buyers buy data with DNA which can also be purchased from us, or on any number of third-party markets. We offer an extensible survey system for researches to expand upon user-submitted profiles, allowing the most flexible data-gathering mechanism, anonymized by our blockchain and de-

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identified at sale. Our free market should allow for greater control and profit by individuals and cheaper data for researchers.

Market

25 Million people worldwide have purchased consumer-oriented genetic tests. About 80% of them have already agreed to have the testing companies sell their data without any expectation of profit for the customer, even while the testing companies profit significantly by re-selling the data. Our target market is the segment of those customers who wish to monetize their data directly, take ownership of it, benefit science and get paid directly at no cost to them for signing up with the Gene-Chain. On the buyer side, our market is researchers and pharma, who have been buying data at monopolistic prices from the testing companies, and who wish to save money and time by going directly to sellers on our platform.

Competition

Our primary competitors are LunaDNA and Nebula Genomics.

LunaDNA have opted to create a Delaware public benefit corporation, and describes their platform as one for "sharing" genomic data. Their terms and conditions for the use of the platform (worth reading in their entirety, by the way), explain that users will receive shares in LunaDNA and potentially dividends, at rates and times to be determined by Luna. Their model is as if Uber drivers were paid for their services by receiving an amount of shares in Uber to be determined by Uber itself, and contingent upon numerous other eventualities — and able to be rescinded at the will of the company. The difference is that the shares of LunaDNA are not exchangeable like those of Uber. Rather, they may earn dividends, and the drivers may expect to receive dividends at some point down the road, so to speak.

For use on its beta platform, Nebula offers "credits" to users which can be used on their platform to purchase more testing or offset the cost of purchased tests. Those credits are offered at the sole discretion of Nebula, in amounts that are in their discretion. Those credits can be offered for referrals, filling in surveys, or for any reason Nebula chooses, and the offer of credits can be revoked at any time. Assuming the current credit model is not the ultimate economic model for Nebula's genomic marketplace, we are left with recent statements from the principals at Nebula to decipher their ultimate business model.

Neither has launched a full platform and we launched our and began hosting transactions since Nov 2019. Both major competitors appear still to be 6 months away from having a functioning platform, so we have first mover advantage, and we also provide the best way for people to actually earn money that can be spent by our users.

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Partners & Resources

Microsoft Startups

As a Microsoft startup, we are on track to receive Azure credits and assistance for website and app hosting. Moreover, with the introduction in Q2 of our B2B product, Microsoft will host that on their Microsoft Store and leverage their sales force to help market it.

Viazoi

Advanced research has granted unprecedented access to the science within each of us and the knowledge of how to make the best choices for our body and well-being. The underlying foundation of this knowledge is DNA. The wisdom within our DNA empowers us to make the best choices about the foods we eat, products we use and the environment we live in. It's the combination of our genetics and our life choices that make up our unique biology, we call it U-ology. At viazoi, our scientists and medical experts will analyze your DNA to create personalized programs based on your biology. From DNA testing to molecular microbe analysis, we use your U-ology to tailor a wellness program that is as unique as you.

Murrieta Genomics

Murrieta Genomics operates a genomic sequencing laboratory and business incubator to advance life science, agriculture, veterinary and forensic sciences by offering researchers the technology and mentorship needed to move concepts from the lab to the market.

CÓDIGO 46

The Codigo 46 report is a non-invasive DNA test based on a buccal swab to obtain and analyze your DNA in order to give you personalized information about disease risk, pharmacogenomics and ancestry. Codigo 46 believes genetic information is a powerful tool for each individual to take control of their wellbeing and together, build a better and healthier future.

Emrify

The partnership is very important to the DNA/Health/Wellness/Fitness industry due to both EncrypGen and Emrify sharing critical values including: that individuals should own their medical, genomic and health/wellness data while having a safe, secure platform for their data via blockchain. EncrypGen gives people control and ownership over their genetic data for science and health, and tokenizes that relationship, which complements Emrify's broader, health record management platform. Learn more.

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Genomics Personalized Health

Genomics Personalized Health facilitates access to whole genome sequencing done at CLIA certified labs. We require that genome sequencing is both a Physician ordered process with Physician oversight of results. The intended use of the genomic data is for informational and educational purposes only, for individuals interested in preventative wellness and long term quality of life. Ask your doctor how he or she might integrate your genomic profile in to your health management and treatment plan.

genomicspersonalizedhealth.com

Sequencing.com

Sequencing.com, the worlds largest App Store for personal genomics, empowers healthcare professionals, researchers and consumers with the ability to tap into genetic data for deep and rich insights. Our Universal Genetic Data Compatibility enables apps to be able to process genetic data from any laboratory and any testing technology, including whole genome and exome sequencing and microarrays. The company also provides developers with easy-to-use API's and mobile plugins for creating and selling DNA-powered apps.

Sequencing.com

Health Wizz

Health Wizz is a secure mobile platform that provides consumers with the necessary tools for aggregating, organizing and sharing their medical health records over the blockchain. Founded in 2016 Health Wizz is on a mission to empower consumers with the necessary tools to better manage their health and medical records. Health Wizz will soon be offering their products and services in the Gene-Chain Marketplace. HealthWizz.com

Why Us?

We began building our solution in 2017 and launched our first functioning product in Nov 2018. We have built a proprietary blockchain solution, have a growing user base, an extensible basis for future development. We have a team with genetic science expertise, 3 PhDs, a security-centric focus, and advisers with experience in genomics and pharmaceutics. We have come from relative obscurity to being discussed in *Wired*, *Reuters*, *Nature*, *The Scientist*, as among the leaders in the emerging field of blockchain and genomics, having beaten all other comers to market and maintaining that market to ourselves for six months so far after launch.

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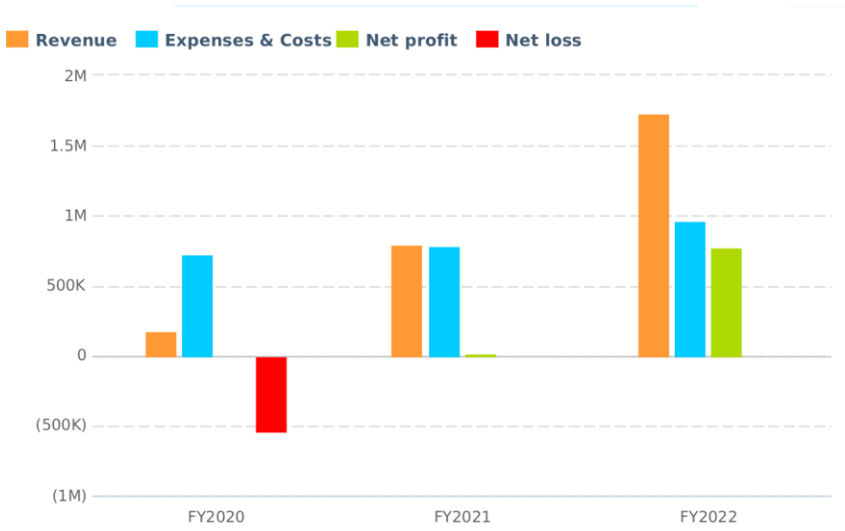
Expectations

Forecast

We know it takes about $25 to get a new user through our direct marketing, and expect each user's data to be sold 10 times per year for an average of $25. At 10% commission we will recover our cost per user after the first year. We seek to grow by 15k users in the next 12 months with a goal of 100k by 2022, using the network effect to accelerate growth. We hope to use any investment not only to increase our marketing efforts but also to improve their efficiency, brining the cost to acquire a user down to $10

Our key metric is user growth, and we have experience with direct to consumer marketing and the rate at which we can expect user base growth. This is being refined and made more efficient.

Financial Highlights by Year



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Financing Needed

We require an investment of 1.5 Million USD in a series A round this year to start to reach our user-growth metrics, with profitability expected in FY3, and becoming an expected target for acquisition in FY4 at 100k users, for a target exit range of 50+ Million USD

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Opportunity

Problem & Solution

Problem Worth Solving

People are buying direct-to-consumer genetic testing in ever increasing numbers. By 2020, over 25 million such tests will have been done. The results of such test can offer some insight into health and ancestry, but the value of the data itself, combined with users' self-reported data collected by testing companies, is tremendous. Pharmaceutical companies and other researchers pay hundreds of millions of dollars per year now for access to curated datasets aggregated by genetic testing companies and the value of that data will only climb as its quality grows.

Users are becoming aware, especially since the recent 300 million USD deal between Glaxo-Smith Klein and 23andMe, that their data is being sold and is valuable. This awareness, combined with a growing reticence to allow companies to buy and sell user data without users being able to control or know about how it is bought and sold, suggests that new models will need to give users greater control and even the ability to profit from their data.

Ours is the first platform that accepts consumer genetic test data, as well as whole genome sequencing data from our partners, so that it can be indexed, searched and sold for use by researchers, finally putting money in the hands of those contributing to scientific and commercial breakthroughs, and enabling access to new data for researchers to buy directly on a free market. We remain 6 to 12 months ahead of any competitors, enjoy the first mover advantage, and are now focusing on user base growth rather than development, with users already on the platform and profiting.

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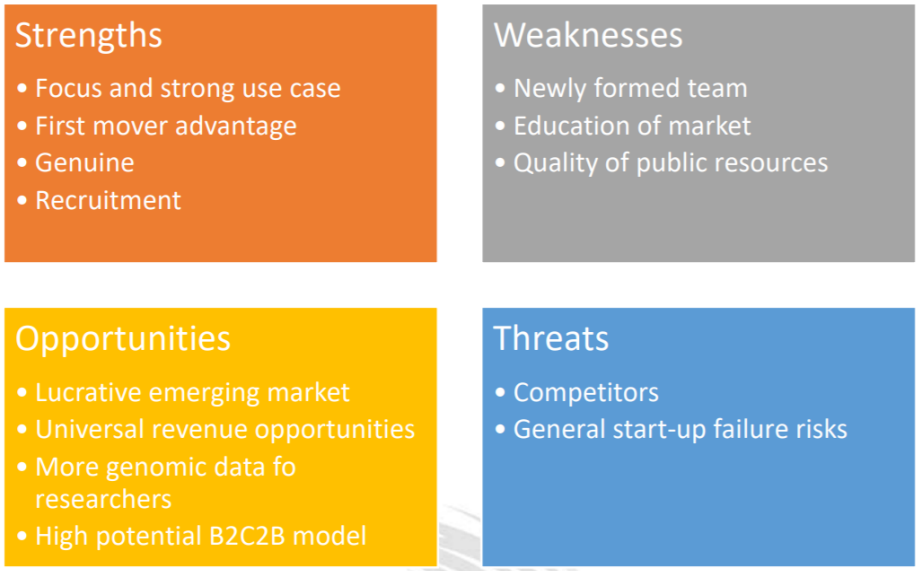
SWOT Analysis

By Spero Research:



Our solution

Our Gene-Chain is a free market, mediated by our proprietary blockchain, utilizing our custom token DNA, and allowing for the first time for anyone who has done a genetic test to upload their data securely and for free, create a profile, and set a price to see if researchers are interested. As well, we have a custom, extensible survey system so that researchers can delve more deeply into useful metadata once they purchase, providing us also with an additional income stream.

The Gene-Chain has been live and utilized by users since November 2018, is growing at a rate which is easily correlated to our marketing, and is both secure and private. The Gene-Chain allows users to take 90% of the profits from each data sale, with the 10% commission we retain available for splits with partners. Our B2B solution, being undertaken as part of our status as a Microsoft Startup, will offer employers the ability to create an employer account, recruit their employees as part of their self-insurance plans, to reduce healthcare costs over time by buying Whole Genome Sequencing through our partner Genomics Personalized Health, and to monetize data using our platform to offset costs.

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Target Market

The direct to consumer testing market is expected to exceed 2.5 billion USD by 2022. An expected 25 million people will be tested by 2020. the value of genetic data needed by researchers from small labs to big pharma will soon reach 1 billion USD. Genomic science, which is now a major focus of personalized health, drug discovery, and increasingly, clinical care, is dependent upon increased access to ever greater amounts of data, especially in conjunction with data about subjects.

Every user of a direct to consumer genetic test is a potential customer. Each has access to their raw genetic data through their testing company, and file types for 23andMe, Ancestry.com, Diagnomics, Viazoi, Codigo46 and others can be uploaded to the Gene-Chain. With a click of the consent and additional profile data, anyone of our customers can begin to market their data to researchers. As well, our B2B product, which combines our partner Personalized Genomic Health's whole genome sequencing services with our monetization platform, is intended to attract self-insured employers to offer services to their employees to bring down long term health costs through use of the data, and offset costs through marketing that data to researchers. WGS data is considered much more valuable than that which is produced by DTC testing, which is a small subset of a person's whole genome.

The market of data buyers who will find the Gene-Chain an affordable and novel new means of getting genomic data for research includes nearly every university, lab, and pharmaceutical company, all of which are growing more aware of of driven by a need for genomic data ion their many studies.

Competition

Current alternatives

LunaDNA: a Sharing Economy

The term "sharing economy" emerged as a way of describing a phenomenon that has grown more prevalent, often facilitated by peer-to-peer technologies common on the internet and its World-Wide Web. The general notion underlying sharing economies (also sometimes, and originally, called "collaborative consumption" models) is the ability to engage in spontaneous market interactions among peers, unmediated by external forces. In practice, this isn't perfectly adopted in any one platform, but numerous "gig economy" models of production and consumption can serve as references, including Uber, YouTube, Craigslist, Gigster, Taskrabbit, and others. Each of these platforms creates a market for individuals to offer and consume a service. In practice, those platforms derive their own profits through monopolizing to some degree their control of a particular market. As new competitors seek to encroach upon those markets, the platforms themselves face the choice of eating into the profits afforded to their producers and consumers, or lower their own expectations of profit. In the real world, for instance, rideshare platform competition has resulted in significant social angst over the fate of drivers who are working longer hours for diminishing returns as companies like

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Uber and Lyft compete to maintain their profit margins. The companies themselves appear to also be a long way from profitability.

LunaDNA, perhaps having sensed emerging concerns about the use of cryptocurrencies, opted to create a Delaware public benefit corporation, and describes their platform as one for "sharing" genomic data. Their terms and conditions for the use of the platform (worth reading in their entirety, by the way), explain that users will receive shares in LunaDNA and potentially dividends, at rates and times to be determined by Luna. Their model is as if Uber drivers were paid for their services by receiving an amount of shares in Uber to be determined by Uber itself, and contingent upon numerous other eventualities — and able to be rescinded at the will of the company. The difference is that the shares of LunaDNA are not exchangeable like those of Uber. Rather, they may earn dividends, and the drivers may expect to receive dividends at some point down the road, so to speak.

The primary motivation to participate in this type of sharing economy marketplace must be altruism, because economically it is not a viable "gig." But the rewards in a sharing economy need not always be immediate, nor need they be material or fungible. Members of the LunaDNA are spoken of as being part of a "community" in current public statements by representative of LunaDNA, and they have stressed they are not trying to create a market for buying and selling genetic data, but rather a venue for data sharing. Altruism is a worthy motivation for many of us. Many people are motivated to act for the interests of a community, and certainly the greater public benefit of improved research and, eventually, health care are certainly goals many of us would act upon. It remains to be seen if this will be enough for LunaDNA to gain traction and user base such that researchers have a scientifically valuable pool of datasets to search upon. A final caveat is that LunaDNA can legally only issue shares to US residents, thus potentially limiting the diversity of the data.

Nebula Genomics; Genome Rental

It is difficult to describe the economics of the Nebula Genomics genomic marketplace because it remains in flux and original plans to offer a cryptocurrency appear to have also changed, perhaps for similar reasons as those of LunaDNA. Nebula often discounts the idea of selling genomic data by referring to what they will offer as an opportunity to "rent" the data to others, while stating that the individual is always the owner of the data. While claiming that they want to create a marketplace for genomic data that will somehow reward those submitting their data, the nature of future rewards remains a mystery. The best we can do is look at the current form of rewards: Nebula Credits.

For use on its beta platform, Nebula offers "credits" to users which can be used on their platform to purchase more testing or offset the cost of purchased tests. Those credits are offered at the sole discretion of Nebula, in amounts that are in their discretion. Those credits can be offered for referrals, filling in surveys, or for any reason Nebula chooses, and the offer of credits can be revoked at any time. Assuming the current credit model is not the ultimate economic model for Nebula's genomic marketplace, we are left with recent statements from the principals at Nebula to decipher their ultimate business model.

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Contemporaneous with the publication of Nebula's Terms of Use, which state:

> Beta Terms of Use
> Version 1
> Effective: November 15, 2018
> Last Updated: November 15, 2018
>
> Welcome to Nebula Genomics, a company building the world's largest, most trusted genomic and health data marketplace where everyone can participate to usher in an era of data-driven healthcare.

Nebula Co-founder Kamal Obbad stated that they were still "figuring out the business model" but the article in which this is stated also describes a model that works more or less identically to that used by the world's most successful direct to consumer genetic testing companies: 23andMe:

MIT Technology Review, Nov. 15, 2018

It appears that their users will own their data which they will sell to drug companies (and others), but if they allow it to be sold for research then the profits will presumably flow to Nebula, so the term "participate" is a bit, erm, nebulous. This is how 23andMe profits by selling their tests at a loss, because the market for genomic data is enormous and the data is in great demand, especially when aggregated with data about subjects' health, etc.

Nothing on Nebula's current FAQ indicates that Nebula offers any profit for people getting tested. They claim only that users will be "compensated fairly" but do not elaborate as to how.

> consumers can be rewarded for participating in the community and compensated for sharing data.

Giving Nebula the benefit of the doubt, Nebula may yet choose to create a marketplace where people have the right to the profits from the transaction of their data with Nebula's data consumers, but the economics of their model are dictated by the large subsidies they are providing to sell their whole genome sequencing kits for just 99 USD each, a tremendous loss (extrapolating from the stated costs of testing by their partner company, Veritas) from their actual worth. Just like 23andMe, which loses money on their kits in order to profit by the sale of users' data, until data buyers begin to subsidize the costs of the kits, Nebula will need to recoup losses on kit sales by charging a markup against the profits individuals might realize from the direct sales of their data to buyers. That mark-up seems likely to be passed along to data buyers, and impact data sellers, in order for Nebula to not lose so much money it goes out of business before it becomes profitable. All of this means the price of data will not be a natural one, dictated by markets, but rather one that is manipulated by the host of the "market."

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Our advantages

EncrypGen: Genomic Data Ownership in a Free Market

Assuming we do not know the free market value of genomic data (because no such free market yet exists), a reasonable way to sort out the natural pricing, and to enable individual sellers and buyers to participate maximally, is to create a free market for the data. A sharing economy without true decentralization will not find an optimal price, nor will a monopolistic one where the market owner takes the bulk of the profits. Free markets, unbridled by regulation or monopolists, are best at finding optimal prices according to modern economic theory.

EncrypGen's business plan revolves around creating such a free market in order to best incentivize data flow. Because EncrypGen and its partners take only up to 10% of the transaction for a sale of data as a commission, with 90% or more of the data sale price going to the owner of the data, and because it does not bear the burden of selling kits itself at a loss to subsidize the market, users on either side of the transaction take the best value of any of the models described above and prices for data should approach optimal. Neither does the Gene-Chain market depend upon the altruism of users satisfied to join a community and share data for the betterment of science and health alone. They also get paid, through transparent transactions of money in the form of a cryptocurrency convertible elsewhere to other cryptocurrencies or fiat in any nation that allows it.

EncrypGen's market launched Nov. 6, 2018 and is gaining users, and has hosted the world's first and so far only blockchain mediated paid transactions for genomic data. It remains to be seen whether any or all of the models discussed above are sustainable, or can be profitable, and whether they will finally achieve the goals all share: *to improve and increase the amount of data available for basic genomic science and personalized genomic medicine, and to provide some means of incentive, ownership, and reward for those whose data is to be made available and so used.*

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Execution

Marketing & Sales

Marketing Plan

We are reaching a market now of people who have already done DTC genetic testing. Through Google Analytics and AdWords, we have refined a display add that is bringing in those users efficiently with a click-through rate nearly twice the average for a display add (ours is 1.67). We have found keywords that are apparently working and can act as a good baseline for further refinement by experts.

We have gathered accurate metrics relating to user acquisition though experiments with Google AdWords. It costs us on average $25 USD to acquire a user. We can extrapolate through sales so far and the expected value of WGS data as we acquire it that users will generate about $25 USD each revenue for us per year as commissions from multiple sales of their data. Our goal to profitability in 2 years depends upon us acquiring 10k new users in FY1 and growing at an increasing rate each year until we reach 100k users by FY4. We could achieve that with 2.5 million USD directed at only marketing as we have been doing so over the next 4 years. However, to make more efficient our efforts at user-base growth through marketing, and to better spend investors' money to grow our business, we intend to hire expertise in SEO and CRM to make the cost of acquiring users significantly cheaper, aiming for 10 USD per user in the first 12 months, and develop professional marketing tools for additional channels.

With a professional marketing and PR agency, we can design campaigns in addition to our AdWords efforts for Twitter, Facebook Instagram, and especially in conjunction with our existing partners, to better target genetic testing users. We will also rely on network and user-driven strategies, such as affiliate programs and referrals to allow our customers, already interested in and having done genetic tests to do marketing for us, referring their friends to our platform in exchange for rewards, including our token or other benefits. We can further target users through ads on public radio or other mass media channels we hope to identify with the target audience.

We continue to be invited for panels and talks at high profile industry events, including, for instance, the Bio conference in Philadelphia in June 2019, with an audience of nearly 18k researchers and professionals involved in genetics and others fields we should consider to be necessary for the buy-side of our platform. These events are a minor cost with potential large gains for driving traffic as we accumulate data to encourage transactions. We will expand our attendance and professional presence at these events, including displays, booths, professional materials to get researchers to our platform.

We will expand our affiliate and partner marketing efforts, including through continuing incentives to direct to consumer testing companies through split arrangements on commissions, to have them market our platform in conjunction with their services, to differentiate them from their large competitors.

Sales Plan

Because our marketplace requires no license to sell, and can attract any user for free who wishes to upload data and create a profile, or any researcher with access to BTC or ETH to buy DNA and purchase data, our marketing efforts are aimed not at sales, but at traffic on our market where we take revenue in the form of commissions.

Roadmap

Milestones Table

Milestone	Due Date
5000 users	August 31, 2019
10000 Users	June 01, 2020
30000 Users	January 01, 2021
50000	June 01, 2021
100000 users	June 01, 2022

Operations

Locations & Facilities

Our organization is completely decentralized and can remain so. Having a distributed ledger and cloud-based system makes the necessity of fixed facilities unnecessary. We have built and run our product without them for 2.5 years.

Technology

The Gene-Chain is powered by a custom-built blockchain, whose code is built on Multi-Chain, and which is capable of a lot more than it will be doing initially in our product. We will reveal more about that in the near future, but suffice it to

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say we have interest already for spin off projects and products that can serve as additional income streams for the company.

The Gene-Chain, the blockchain that Dr. Notis Gasparis built, is the heart of the marketplace we launched in November 2018.. It captures and processes all the transactions that will comprise the free market of genomic data we have made. It is a record of those transactions, and is ultimately agnostic about the assets used to buy and sell the data, being able to take in now Bitcoin (BTC), and later Ethereum (ETH) and any other crypto assets, as well as fiat assets, and then fulfill transactions using mDNA, the Multi-chain DNA cryptocurrency on the platform. mDNA improves liquidity as it allows token holders to cash out in BTC for now, and then later as we adopt the ETH and ERC20 DNA (eDNA), it will provide people with a way to use their eDNA tokens (DNA), rewarding them 1:1 for each mDNA token they earn or hold.

The brains of the Gene-Chain were built by our developers for the DNA data portions of the platform, and this platform is no less remarkable. Using HIPAA compliant, and highly secure cryptographically-protected data storage and Google Cloud, the platform allows for all the functionality necessary to launch a valuable genomic marketplace. That is to say, it is driving the profile creation, the anonymity of users, many layers of abstraction between users and their data for identity protection and privacy, processing of genomic data files of various types by way of indexing, which brings usefulness to the researchers who will search for and buy data, and finally data delivery in a proprietary CSV file stripped of identifying information. Eventually, we will create a browser for viewing purchased files so that greater control over data is maintained by sellers, and all of the flexibility we now will depend on for the next iterations of this amazing product are due to the craftsmen like Notis and his team and their work with our blockchain, working together to forge a complete product.

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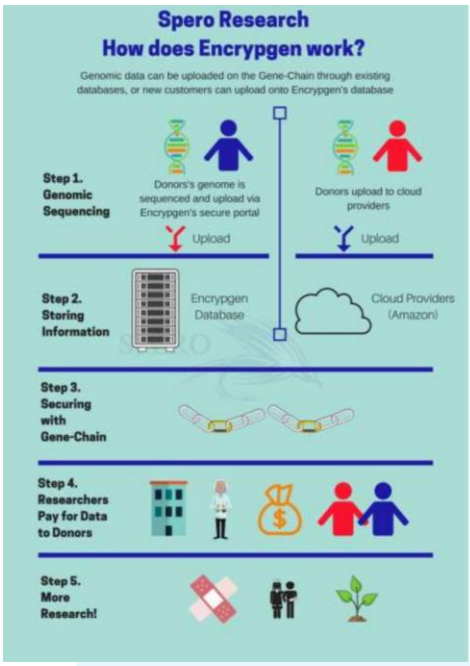

How does EncrypGen work?

Infographic

Source: Spero Research

Equipment & Tools

N/A

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Milestones & Metrics

Milestones Table

Milestone	Due Date
5000 users	August 31, 2019
10000 Users	June 01, 2020
30000 Users	January 01, 2021
50000	June 01, 2021
100000 users	June 01, 2022

Key metrics

Our key metrics are users and user-base growth. With a known number of users with data on the platform, we can extrapolate from ongoing transactions the rate of growth of new transactions and thus revenue.

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Company

Overview

Ownership & Structure

We are a Delaware C-Corp, privately held, with one owner and a family board.

Company history

We formed in Jan 2017 as an LLC in Florida, and created our new structure as a privately held, C-Corp in Jan 2018 registered in Delaware.

EncrypGen was created to fulfill the goals and interests of founders - Dr. David Koepsell, an attorney, ethicist, and author who has penned numerous books and articles on genes, ownership and ethics, and his wife Dr. Vanessa Gonzalez Covarrubias, a pharmacogenomic research scientist. EncrypGen embarked on a mission to create a platform that would increase the amount of genetic data available for research, while simultaneously increasing privacy, security, and ownership of data for individuals and allow them profit from their data in an open marketplace.

EncrypGen was founded to begin the task of creating the world's first blockchain-mediated market for genomic data. Since its inception, EncrypGen has met every milestone on their roadmap on or ahead of schedule.

● In May of 2017, the team demoed a prototype at the Bio-World IT conference in Boston.

● During the Festival of Genomics in London in January of 2018 the beta of the platform was unveiled.

● Finally on November 6 of 2018, the company publicly launched Gene-Chain Version 1.0 and conducted the first free market genomic data sale on the blockchain using the newly created DNA cryptocurrency.

Team

Management team

- David Koepsell, J.D., Ph.D. *Founder & CEO*

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With a background in law, ethics, tech and having authored numerous books and articles on genes, ownership, and ethics. David brings his interest and expertise together to guide the development of systems to enhance the value of genomic databases, while protecting donors and making them stakeholders.

- Vanessa Gonzalez Covarrubias, Ph.D.*Co-Founder / Genomic Science Advisor*

Vanessa has a decade of experience in genetic science, including research and publications in numerous journals, and currently researches pharmacogenomics, the foundational science behind the nascent field of personal medical genomics.

- Carolyn Seet, *VP Finance*

Carolyn has been with us for more than a year, managing both our team and its finances. As a core team member, she has attended and presented with us at the Festival of Genomics in London, and helps to build our user base and community good will.

- Notis Gasparis, Ph.D., *Lead Developer*

Notis brings over 20 years experience holding several software development positions among many global companies. He holds a BSc in Computer Science, an MSc in Distributed Systems and a PhD in Software Engineering. He has also held positions at the University of Essex and Goldsmiths College.

Advisors

Advisors

Barry Smith, Ph.D., *Advisor, Gene-Ontology & Data Objects*

Dr. Barry Smith is Director, National Center for Ontological Research; Affiliate Professor of Biomedical Informatics, Computer Science and Engineering, and Neurology at the University at Buffalo, and Fellow, American College of Medical Informatics.

Richard E. Shute, B. Pharm. Ph.D., *Advisor, Medicinal Chemistry, Informatics Blockchain Innovation*

Dr. Richard Shute worked for over 25 years in global pharma (ICI/Zeneca/AstraZeneca) in drug discovery projects and as an IS/IT/Informatics relationship manager. He now consults for Curlew Research, and has presented on blockchain and on the new genomics marketplace.

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Amnon H. Eden, Ph.D., *Advisor, Computer Scientist*

Dr. Amnon Eden is the Principal Scientist at the Sapience.org thinktank. Amnon programmed for and consulted start-ups, multinationals, and hedge funds in Tel Aviv and London high-tech industries, and held academic positions, most recently at the University of Essex.

Nick Lynch, Ph.D., *Advisor, Informatics & Pharmaceutics*

Dr. Nick Lynch is the Founder of Curlew Research and CTO of Open PHACTS Foundation. Nick has worked for >20 years in pharma research (biotechs, informatics companies and global pharma) delivering data analytics and services across R&D.

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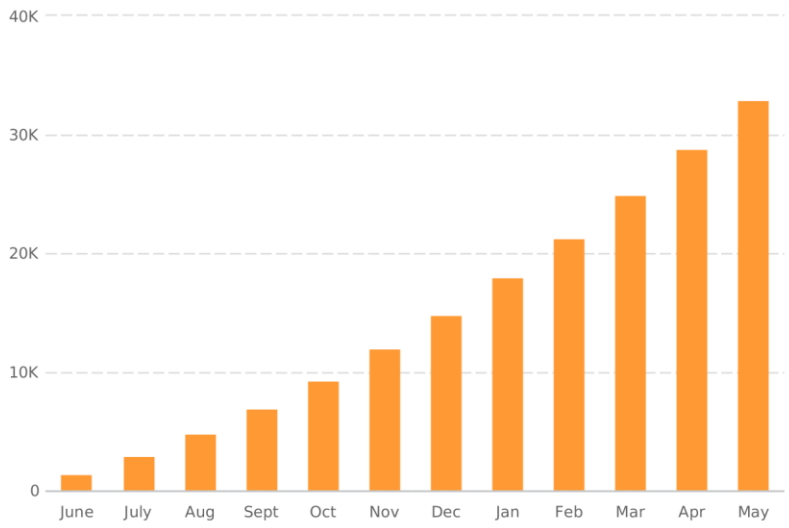
Financial Plan

Forecast

Key assumptions

We assume that each user generates on average 25 USD per year for us, given relative costs of data files sold by 23andMe and others, and given that we will be gathering whole genome data in addition to direct to consumer test data.

Revenue by Month



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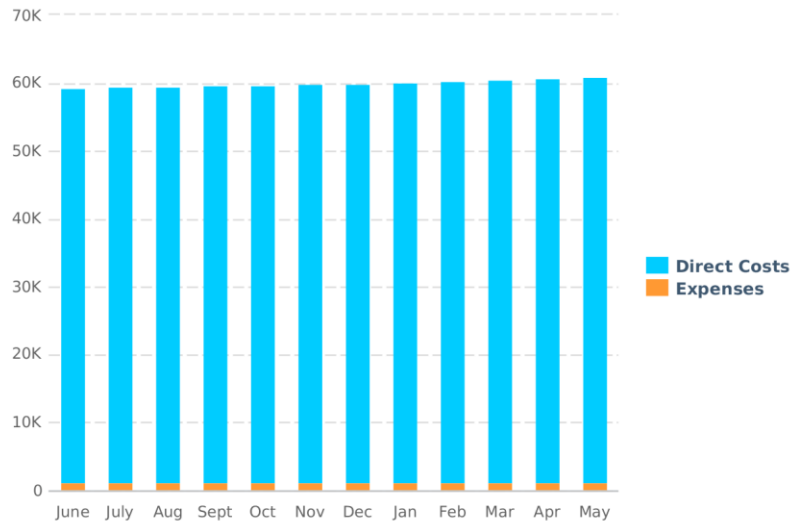
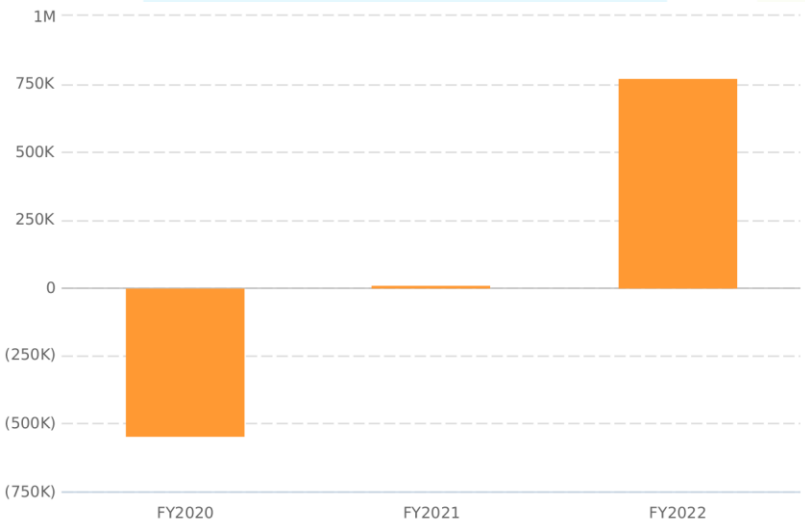
Expenses by Month



Net Profit (or Loss) by Year



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Revenue Forecast Table

	FY2020	FY2021	FY2022
Revenue			
Commissions on data sales	$170,408	$788,922	$1,714,334
Survey add-on fee	$7,800	$10,000	$20,000
Total Revenue	**$178,208**	**$798,922**	**$1,734,334**
Direct Cost			
cloud storage and hosting	$8,910	$39,947	$86,716
Marketing	$300,000	$300,000	$300,000
Direct Labor	$396,000	$403,920	$411,998
Total direct costs	**$704,910**	**$743,867**	**$798,715**
Gross margin	($526,702)	$55,056	$935,619
Gross margin %	**(296%)**	**7%**	**54%**

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Projected Balance Sheet

	Starting Balances	FY2020	FY2021	FY2022
Cash		$1,032,540	$922,651	$1,349,317
Accounts Receivable		$0	$0	$0
Inventory				
Other Current Assets				
Total Current Assets		**$1,032,540**	**$922,651**	**$1,349,317**
Long-Term Assets		$151,500	$651,500	$1,651,500
Accumulated Depreciation		($15,150)	($57,383)	($176,700)
Total Long-Term Assets		**$136,350**	**$594,117**	**$1,474,800**
Total Assets		**$1,168,890**	**$1,516,768**	**$2,824,117**
Accounts Payable		$0	$0	$0
Income Taxes Payable		$0	$0	$43,091
Sales Taxes Payable		$0	$0	$0
Short-Term Debt				
Prepaid Revenue	$0	$210,742	$545,797	$1,036,844
Total Current Liabilities	**$0**	**$210,742**	**$545,797**	**$1,079,935**
Long-Term Debt				
Total Liabilities	**$0**	**$210,742**	**$545,797**	**$1,079,935**
Paid-In Capital		$1,500,000	$1,500,000	$1,500,000
Retained Earnings	$0	$0	($541,852)	($529,029)
Earnings		($541,852)	$12,823	$773,211
Total Owner's Equity	**$0**	**$958,148**	**$970,971**	**$1,744,182**
Total Liabilities & Equity	**$0**	**$1,168,890**	**$1,516,768**	**$2,824,117**

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Financing

Use of funds

We are post development, but ongoing maintenance of the system is allocated for through current cash on hand and token reserves. Regardless, some amount of new investment will be marked for the development team. The bulk of investors' money will go toward marketing to increase user base. With our target of exit by acquisition in 2023, when we reach a user base of 100k, we expect a large genomics company to seek to manage the disruption of our business model somewhere in the range of 50+ million USD. to reach that goal, 100k users, representing a threat significant to monopolistic data strategies, is the goal and the major emphasis for all incoming investment money. Revenue will go toward operations.

Sources of Funds

We raised 600000 USD from friends and family. We are seeking 1.5 mil USD in a series A for 2019.

Milestones Table

Milestone	Due Date
5000 users	August 31, 2019
10000 Users	June 01, 2020
30000 Users	January 01, 2021
50000	June 01, 2021
100000 users	June 01, 2022

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Statements

Projected Profit and Loss

	FY2020	FY2021	FY2022
Revenue	**$178,208**	**$798,922**	**$1,734,334**
Direct Costs	**$704,910**	**$743,867**	**$798,715**
Gross Margin	($526,702)	$55,056	$935,619
Gross Margin %	**(296%)**	**7%**	**54%**
Operating Expenses			
Total Operating Expenses			
Operating Income	**($526,702)**	**$55,056**	**$935,619**
Interest Incurred			
Depreciation and Amortization	$15,150	$42,233	$119,317
Income Taxes	$0	$0	$43,091
Total Expenses	**$720,060**	**$786,100**	**$961,123**
Net Profit	**($541,852)**	**$12,823**	**$773,211**
Net Profit / Sales	**(304%)**	**2%**	**45%**

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Projected Balance Sheet

	Starting Balances	FY2020	FY2021	FY2022
Cash		$1,032,540	$922,651	$1,349,317
Accounts Receivable		$0	$0	$0
Inventory				
Other Current Assets				
Total Current Assets		**$1,032,540**	**$922,651**	**$1,349,317**
Long-Term Assets		$151,500	$651,500	$1,651,500
Accumulated Depreciation		($15,150)	($57,383)	($176,700)
Total Long-Term Assets		**$136,350**	**$594,117**	**$1,474,800**
Total Assets		**$1,168,890**	**$1,516,768**	**$2,824,117**
Accounts Payable		$0	$0	$0
Income Taxes Payable		$0	$0	$43,091
Sales Taxes Payable		$0	$0	$0
Short-Term Debt				
Prepaid Revenue	$0	$210,742	$545,797	$1,036,844
Total Current Liabilities	**$0**	**$210,742**	**$545,797**	**$1,079,935**
Long-Term Debt				
Total Liabilities	**$0**	**$210,742**	**$545,797**	**$1,079,935**
Paid-In Capital		$1,500,000	$1,500,000	$1,500,000
Retained Earnings	$0	$0	($541,852)	($529,029)
Earnings		($541,852)	$12,823	$773,211
Total Owner's Equity	**$0**	**$958,148**	**$970,971**	**$1,744,182**
Total Liabilities & Equity	**$0**	**$1,168,890**	**$1,516,768**	**$2,824,117**

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Projected Cash Flow Statement

	FY2020	FY2021	FY2022
Net Cash Flow from Operations			
Net Profit	($541,852)	$12,823	$773,211
Depreciation & Amortization	$15,150	$42,233	$119,317
Change in Accounts Receivable	$0	$0	$0
Change in Inventory			
Change in Accounts Payable	$0	$0	$0
Change in Income Tax Payable	$0	$0	$43,091
Change in Sales Tax Payable	$0	$0	$0
Change in Prepaid Revenue	$210,742	$335,055	$491,047
Net Cash Flow from Operations	**($315,960)**	**$390,111**	**$1,426,666**
Investing & Financing			
Assets Purchased or Sold	($151,500)	($500,000)	($1,000,000)
Investments Received	$1,500,000		
Change in Long-Term Debt			
Change in Short-Term Debt			
Dividends & Distributions			
Net Cash Flow from Investing & Financing	**$1,348,500**	**($500,000)**	**($1,000,000)**
Cash at Beginning of Period	$0	$1,032,540	$922,651
Net Change in Cash	$1,032,540	($109,889)	$426,666
Cash at End of Period	**$1,032,540**	**$922,651**	**$1,349,317**

Appendix

Profit and Loss Statement (With monthly detail)

FY2020	June '19	July '19	Aug '19	Sept '19	Oct '19	Nov '19	Dec '19	Jan '20	Feb '20	Mar '20	Apr '20	May '20
Total Revenue	**$1,360**	**$2,973**	**$4,838**	**$6,954**	**$9,323**	**$11,944**	**$14,816**	**$17,942**	**$21,319**	**$24,948**	**$28,829**	**$32,962**
Total Direct Costs	**$58,068**	**$58,149**	**$58,242**	**$58,347**	**$58,466**	**$58,598**	**$58,740**	**$58,897**	**$59,066**	**$59,248**	**$59,441**	**$59,648**
Gross Margin	($56,708)	($55,176)	($53,404)	($51,394)	($49,143)	($46,653)	($43,924)	($40,955)	($37,747)	($34,299)	($30,612)	($26,686)
Gross Margin %	**(4,168%)**	**(1,856%)**	**(1,104%)**	**(739%)**	**(527%)**	**(391%)**	**(296%)**	**(228%)**	**(177%)**	**(137%)**	**(106%)**	**(81%)**
Operating Expenses												
Operating Income	**($56,708)**	**($55,175)**	**($53,405)**	**($51,393)**	**($49,143)**	**($46,654)**	**($43,924)**	**($40,955)**	**($37,748)**	**($34,299)**	**($30,612)**	**($26,686)**
Interest Incurred												
Depreciation and Amortization	$1,263	$1,262	$1,263	$1,262	$1,263	$1,262	$1,263	$1,262	$1,263	$1,262	$1,263	$1,262
Income Taxes	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Total Expenses	**$59,331**	**$59,411**	**$59,504**	**$59,610**	**$59,729**	**$59,860**	**$60,003**	**$60,159**	**$60,329**	**$60,510**	**$60,704**	**$60,910**
Net Profit	**($57,970)**	**($56,438)**	**($54,667)**	**($52,656)**	**($50,406)**	**($47,916)**	**($45,187)**	**($42,217)**	**($39,010)**	**($35,562)**	**($31,875)**	**($27,948)**
Net Profit / Sales	**(4,261%)**	**(1,898%)**	**(1,130%)**	**(757%)**	**(541%)**	**(401%)**	**(305%)**	**(235%)**	**(183%)**	**(143%)**	**(111%)**	**(85%)**

	FY2020	FY2021	FY2022
Total Revenue	**$178,208**	**$798,922**	**$1,734,334**
Total Direct Costs	**$704,910**	**$743,867**	**$798,715**
Gross Margin	($526,702)	$55,056	$935,619
Gross Margin %	**(296%)**	**7%**	**54%**
Operating Expenses			
Operating Income	**($526,702)**	**$55,056**	**$935,619**
Interest Incurred			
Depreciation and Amortization	$15,150	$42,233	$119,317
Income Taxes	$0	$0	$43,091
Total Expenses	**$720,060**	**$786,100**	**$961,123**
Net Profit	**($541,852)**	**$12,823**	**$773,211**
Net Profit / Sales	**(304%)**	**2%**	**45%**

Balance Sheet (With Monthly Detail)

	Starting Balances	June '19	July '19	Aug '19	Sept '19	Oct '19	Nov '19	Dec '19	Jan '20	Feb '20	Mar '20	Apr '20	May '20
Cash		$1,305,657	$1,265,858	$1,229,091	$1,195,344	$1,164,603	$1,136,855	$1,112,090	$1,090,293	$1,071,452	$1,055,554	$1,042,588	$1,032,540
Accounts Receivable		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Inventory													
Other Current Assets													
Total Current Assets		**$1,305,657**	**$1,265,858**	**$1,229,091**	**$1,195,344**	**$1,164,603**	**$1,136,855**	**$1,112,090**	**$1,090,293**	**$1,071,452**	**$1,055,554**	**$1,042,588**	**$1,032,540**
Long-Term Assets		$151,500	$151,500	$151,500	$151,500	$151,500	$151,500	$151,500	$151,500	$151,500	$151,500	$151,500	$151,500
Accumulated Depreciation		($1,263)	($2,525)	($3,788)	($5,050)	($6,313)	($7,575)	($8,838)	($10,100)	($11,363)	($12,625)	($13,888)	($15,150)
Total Long-Term Assets		**$150,238**	**$148,975**	**$147,713**	**$146,450**	**$145,188**	**$143,925**	**$142,663**	**$141,400**	**$140,138**	**$138,875**	**$137,613**	**$136,350**
Total Assets		**$1,455,894**	**$1,414,833**	**$1,376,804**	**$1,341,794**	**$1,309,790**	**$1,280,780**	**$1,254,752**	**$1,231,693**	**$1,211,589**	**$1,194,429**	**$1,180,200**	**$1,168,890**
Accounts Payable		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Income Taxes Payable		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Sales Taxes Payable		$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Short-Term Debt													
Prepaid Revenue	$0	$13,865	$29,242	$45,879	$63,525	$81,927	$100,833	$119,992	$139,150	$158,056	$176,458	$194,104	$210,742
Total Current Liabilities	**$0**	**$13,865**	**$29,242**	**$45,879**	**$63,525**	**$81,927**	**$100,833**	**$119,992**	**$139,150**	**$158,056**	**$176,458**	**$194,104**	**$210,742**
Long-Term Debt													

Total Liabilities	**$0**	**$13,865**	**$29,242**	**$45,879**	**$63,525**	**$81,927**	**$100,833**	**$119,992**	**$139,150**	**$158,056**	**$176,458**	**$194,104**	**$210,742**
Paid-In Capital		$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000	$1,500,000
Retained Earnings	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Earnings		($57,970)	($114,408)	($169,075)	($221,731)	($272,137)	($320,053)	($365,240)	($407,458)	($446,467)	($482,029)	($513,904)	($541,852)
Total Owner's Equity	**$0**	**$1,442,030**	**$1,385,592**	**$1,330,925**	**$1,278,269**	**$1,227,863**	**$1,179,947**	**$1,134,760**	**$1,092,543**	**$1,053,533**	**$1,017,971**	**$986,096**	**$958,148**
Total Liabilities & Equity	**$0**	**$1,455,894**	**$1,414,833**	**$1,376,804**	**$1,341,794**	**$1,309,790**	**$1,280,780**	**$1,254,752**	**$1,231,693**	**$1,211,589**	**$1,194,429**	**$1,180,200**	**$1,168,890**

	Starting Balances	FY2020	FY2021	FY2022
Cash		$1,032,540	$922,651	$1,349,317
Accounts Receivable		$0	$0	$0
Inventory				
Other Current Assets				
Total Current Assets		**$1,032,540**	**$922,651**	**$1,349,317**
Long-Term Assets		$151,500	$651,500	$1,651,500
Accumulated Depreciation		($15,150)	($57,383)	($176,700)
Total Long-Term Assets		**$136,350**	**$594,117**	**$1,474,800**
Total Assets		**$1,168,890**	**$1,516,768**	**$2,824,117**
Accounts Payable		$0	$0	$0
Income Taxes Payable		$0	$0	$43,091
Sales Taxes Payable		$0	$0	$0
Short-Term Debt				
Prepaid Revenue	$0	$210,742	$545,797	$1,036,844
Total Current Liabilities	**$0**	**$210,742**	**$545,797**	**$1,079,935**
Long-Term Debt				
Total Liabilities	**$0**	**$210,742**	**$545,797**	**$1,079,935**
Paid-In Capital		$1,500,000	$1,500,000	$1,500,000
Retained Earnings	$0	$0	($541,852)	($529,029)
Earnings		($541,852)	$12,823	$773,211
Total Owner's Equity	**$0**	**$958,148**	**$970,971**	**$1,744,182**
Total Liabilities & Equity	**$0**	**$1,168,890**	**$1,516,768**	**$2,824,117**

Cash Flow Statement (With Monthly Detail)

FY2020	June '19	July '19	Aug '19	Sept '19	Oct '19	Nov '19	Dec '19	Jan '20	Feb '20	Mar '20	Apr '20	May '20
Net Cash Flow from Operations												
Net Profit	($57,970)	($56,438)	($54,667)	($52,656)	($50,406)	($47,916)	($45,187)	($42,217)	($39,010)	($35,562)	($31,875)	($27,948)
Depreciation & Amortization	$1,263	$1,263	$1,263	$1,263	$1,263	$1,263	$1,263	$1,263	$1,263	$1,263	$1,263	$1,263
Change in Accounts Receivable	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Change in Inventory												
Change in Accounts Payable	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Change in Income Tax Payable	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Change in Sales Tax Payable	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0	$0
Change in Prepaid Revenue	$13,865	$15,377	$16,638	$17,646	$18,402	$18,906	$19,158	$19,158	$18,906	$18,402	$17,646	$16,638
Net Cash Flow from Operations	**($42,843)**	**($39,799)**	**($36,767)**	**($33,748)**	**($30,741)**	**($27,747)**	**($24,766)**	**($21,797)**	**($18,841)**	**($15,897)**	**($12,966)**	**($10,048)**
Investing & Financing												
Assets Purchased or Sold	($151,500)											
Investments Received	$1,500,000											
Change in Long-Term Debt												

Change in Short-Term Debt												
Dividends & Distributions												
Net Cash Flow from Investing & Financing	**$1,348,500**											
Cash at Beginning of Period	$0	$1,305,657	$1,265,858	$1,229,091	$1,195,344	$1,164,603	$1,136,855	$1,112,090	$1,090,293	$1,071,452	$1,055,554	$1,042,588
Net Change in Cash	$1,305,657	($39,799)	($36,767)	($33,748)	($30,741)	($27,747)	($24,766)	($21,797)	($18,841)	($15,897)	($12,966)	($10,048)
Cash at End of Period	**$1,305,657**	**$1,265,858**	**$1,229,091**	**$1,195,344**	**$1,164,603**	**$1,136,855**	**$1,112,090**	**$1,090,293**	**$1,071,452**	**$1,055,554**	**$1,042,588**	**$1,032,540**

	FY2020	FY2021	FY2022
Net Cash Flow from Operations			
Net Profit	($541,852)	$12,823	$773,211
Depreciation & Amortization	$15,150	$42,233	$119,317
Change in Accounts Receivable	$0	$0	$0
Change in Inventory			
Change in Accounts Payable	$0	$0	$0
Change in Income Tax Payable	$0	$0	$43,091
Change in Sales Tax Payable	$0	$0	$0
Change in Prepaid Revenue	$210,742	$335,055	$491,047
Net Cash Flow from Operations	**($315,960)**	**$390,111**	**$1,426,666**
Investing & Financing			
Assets Purchased or Sold	($151,500)	($500,000)	($1,000,000)
Investments Received	$1,500,000		
Change in Long-Term Debt			
Change in Short-Term Debt			
Dividends & Distributions			
Net Cash Flow from Investing & Financing	**$1,348,500**	**($500,000)**	**($1,000,000)**
Cash at Beginning of Period	$0	$1,032,540	$922,651
Net Change in Cash	$1,032,540	($109,889)	$426,666
Cash at End of Period	**$1,032,540**	**$922,651**	**$1,349,317**